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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,616	04/05/2001	Hugh Anglin	EWG-143 US	4050

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EXAMINER	
THOMPSON, JAMES A	

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,616	ANGLIN, HUGH	
	Examiner	Art Unit	
	James A. Thompson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2006 and 26 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-10,12,13 and 15-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/26/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 26 July 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. There is no copy of *Watermarking of Multimedia Contents*, January 1999, pp. 54-65 in the case file. The information disclosure statement has been placed in the application file, but the information contained within *Watermarking of Multimedia Contents*, January 1999, pp. 54-65 referred to therein has not been considered.

Response to Arguments

2. Applicant's arguments filed 17 July 2006 have been fully considered but they are not persuasive.

Regarding page 6, line 1 to page 7, line 22:

Applicant argues that Aggarwal (US Patent 6,834,344 B1) does not use the authentication test to measure print quality, and that the authentication may not work due to a deficiency in the operation of the watermark detector.

Examiner replies that authenticity is itself a measure of print quality. "Quality" itself is a rather broad term, and whether or not an image is authentic can clearly be considered a determination of quality. If an image has been altered such that it is determined to not be authentic, then the quality of the image has clearly been degraded. Applicant's speculation with respect to the inoperability of the watermark detector does

not properly address the system taught by Aggarwal since the detection of authenticity in Aggarwal implicitly assumes that the watermark detector works, but determines from the captured image data itself that the watermark is not authentic.

Regarding page 7, line 23 to page 8, line 13: Applicant's arguments in this section are related to the present amendments to the claims. Applicant's present amendments to the claims have overcome the Aggarwal reference. However, new prior art references have been discovered which render the present claims obvious to one of ordinary skill in the art at the time of the invention. Applicant is respectfully reminded that, during patent examination, claims are given their broadest reasonable interpretation consistent with the specification (see MPEP §2111). While Aggarwal clearly anticipated claims 1, 2 and 10 prior to the present amendments, the present amendments have altered the scope of the claims such that Aggarwal cannot be reasonably applied to the present claims. Thus, new art is applied to demonstrate that the present claims are rendered obvious to one of ordinary skill in the art at the time of the invention. The new grounds of rejection, which have been necessitated by the present amendments to the claims, are set forth in detail below. The original rejections of the unamended claims have been maintained.

Regarding page 8, line 14 to page 9 line 7: Clearly, if there has been tampering to the watermark such that the image is considered inauthentic, then the strength of the watermark has been weakened or destroyed. Furthermore, as discussed above, if the image is determined to be inauthentic due to tampering with the watermark, then the quality of the image is affected.

Regarding page 9, lines 9-14: Applicant's arguments are directed to the present amendments to the claims. New grounds of rejection, based on the present amendments to the claims, are set forth in detail below.

Regarding page 9, lines 16-24: Claim 12 merely recites that "said watermark is redundantly embedded in multiple areas of said image". The cited portion of Aggarwal (figure 3(201-205); and column 6, lines 48-51 and lines 55-59 of Aggarwal) clearly show that the watermark is redundantly embedded in a plurality of 8x8 sections of the image data.

Regarding page 9, line 26 to page 10, line 4: As discussed above, the watermark is clearly redundantly embedded in a plurality of 8x8 sections of the image data (figure 3(201-205); and column 6, lines 48-51 and lines 55-59 of Aggarwal). Furthermore, as discussed above, if there has been tampering to the watermark such that the image is considered inauthentic, then the strength of the watermark has been weakened or destroyed; and if the image is determined to be inauthentic due to tampering with the watermark, then the quality of the image is affected.

Regarding page 10, lines 6-14: Modification of the DCT coefficients is how Aggarwal embeds the watermark. Recovery of these coefficients is how Aggarwal determines if the image is authentic or not. Aggarwal does not teach changing the DCT coefficients as part of the process of watermark detection, but rather as part of watermark creation.

Regarding page 10, line 16 to page 11, line 5: All of the elements of the claims upon which claims 3, 5, 9, 13 and 17-20 depend are taught by Aggarwal, as set forth in detail above. Austin (US Patent 5,488,233) is relied upon to teach specific-

ally printing on labels. The combination of references fully teach claims 3, 5, 9, 13 and 17-20 as recited immediately prior to the previous office action, dated 03 April 2006 and mailed 17 April 2006.

Regarding page 11, line 7 to page 12, line 5: Aggarwal teaches what Applicant alleges to be missing, as set forth in detail above. The secondary references teach the limitations that are missing from Aggarwal.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 8, 10, 12 and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Aggarwal (US Patent 6,834,344 B1).

Regarding claim 8: Aggarwal discloses a method of inspecting print quality, the printing including a first image that has been digitally modified to embed a digital watermark signal (figure 3(206) and column 6, lines 59-63 of Aggarwal) and printed on a carrier to create a printed image (column 5, lines 3-6; column 6, lines 30-36; and column 8, lines 50-52 of Aggarwal), the method comprising acquiring (scanning) a second image of

said printed image (column 5, lines 3-6; column 6, lines 30-36; and column 8, lines 50-52 of Aggarwal); reading said watermark signal from said second image (column 6, lines 64-65 of Aggarwal) to compute a measure of the digital watermark signal strength embedded in the second image (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal); and determining quality of said printing from the measure of the digital watermark signal strength (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal). The embedded watermark is a semi-fragile watermark (column 6, lines 40-41 of Aggarwal). If a semi-fragile watermark is affected such that it cannot be authenticated, then the quality of the image is inherently affected. Thus, the determination as to whether or not the reconstructed watermark is authentic (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal) is also a measure of the image quality.

Regarding claim 10: Aggarwal discloses that said watermark comprises a signal embedded into the image at selected spatial frequencies (column 6, lines 48-51 and lines 55-59 of Aggarwal), and the measure of the digital watermark strength comprises a measure of the signal at the selected spatial frequencies (column 6, lines 48-59 of Aggarwal). As is well-known in the art DCT coefficients are at selected spatial frequencies.

Regarding claim 12: Aggarwal discloses that said watermark is redundantly embedded in multiple areas of said image (figure 3(201-205); and column 6, lines 48-51 and lines 55-59 of Aggarwal).

Regarding claim 22: Aggarwal discloses that the strength of the digital watermark signal in the areas of the image where the digital watermark is redundantly applied (figure 3(201-205);

and column 6, lines 48-51 and lines 55-59 of Aggarwal) is used as a measure of print quality (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal). The embedded watermark is a semi-fragile watermark (column 6, lines 40-41 of Aggarwal). If a semi-fragile watermark is affected such that it cannot be authenticated, then the quality of the image is inherently affected. Thus, the determination as to whether or not the reconstructed watermark is authentic (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal) is also a measure of the image quality.

Regarding claim 23: Aggarwal discloses that strength is measured as a function of spatial frequencies that have been modified to embed the digital watermark (column 6, lines 55-59 and column 7, lines 64-67 of Aggarwal).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (EP 0 953 938 A2) in view of Reinhard (US Patent 6,333,987 B1).

Regarding claim 1: Wong discloses digitally watermarking an image (column 5, lines 30-33 of Wong), said watermark being redundantly applied in areas of said image (figure 5; column 6,

lines 10-17; and column 11, lines 17-22 of Wong); outputting said image on a carrier (column 6, lines 18-23 of Wong); acquiring a second image of the image output on said carrier (figure 2a(Yr) and column 10, lines 30-37 of Wong); detecting the digital watermark from areas of said second image (figure 5 and column 10, lines 36-39 of Wong); and determining an extent to which the digital watermark is detected, including separately determining the extent of detecting a watermark signal in a plurality of distinct areas (figure 5 and column 10, line 52 to column 11, line 3 of Wong).

Wong does not disclose expressly that said outputting is specifically printing; and that said determining is a measure of quality of the printing, including separately determining the extent of detecting a watermark signal in a plurality of distinct areas.

Reinhard discloses printing an image on a carrier (column 2, lines 4-10 of Reinhard); and determining an extent to which an image is detected in the areas (figure 2 of Reinhard) as a measure of the quality of printing, including separately determining the extent of detecting an image signal in a plurality of distinct areas (column 2, lines 15-24 of Reinhard).

Wong is analogous art since Wong is directed to the same field of endeavor as the present application, namely the embedding and detection of redundant watermarks. Wong and Reinhard are combinable because they are from similar problem solving areas, namely detecting images in a plurality of separate areas. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically output the watermark image as a printed image, and determine the quality of the image based on the level of image detection in the separate

areas, as taught by Reinhard, wherein said image is specifically the watermark image, as taught by Wong. The motivation for doing so would have been that said determination produces a dependable fault assessment for different areas of the image (column 1, lines 41-43 of Reinhard). Therefore, it would have been obvious to combine Reinhard with Wong to obtain the invention as specified in claim 1.

Regarding claim 2: Wong discloses that said watermark includes the watermark signal embedded into the image at selected spatial frequencies in the plurality of distinct areas (figure 5 and column 6, lines 10-17 of Wong), and the separately determining includes measuring strength of the watermark signal at the selected spatial frequencies (IxJ) in the distinct areas (column 11, lines 17-29 of Wong).

Further regarding claim 19: Reinhard discloses that the strength of the digital image signal (digital watermark signal in Wong) in the areas is used as a measure of print quality (figure 2 and column 2, lines 15-24 of Reinhard).

Regarding claim 20: Wong discloses that the spatial frequencies have been modified to embed the digital watermark in the areas (figure 5 and column 10, lines 10-24 of Wong).

Wong does not disclose expressly that the strength of the digital watermark is measured as a function of said spatial frequencies.

Reinhard discloses that the strength of the digital image data (digital watermark in Wong) is measured as a function of the spatial frequencies (figure 2 and column 2, lines 15-24 of Reinhard).

Wong is analogous art since Wong is directed to the same field of endeavor as the present application, namely the embedd-

ing and detection of redundant watermarks. Wong and Reinhard are combinable because they are from similar problem solving areas, namely detecting images in a plurality of separate areas. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to measure the strength of the digital image data in each area, as taught by Reinhard, the spatial size of each area corresponding to the spatial frequency taught by Wong and the digital image data corresponding to the digital watermark data taught by Wong. The motivation for doing so would have been that the measurement of said strength produces a dependable fault assessment for different areas of the image (column 1, lines 41-43 of Reinhard). Therefore, it would have been obvious to combine Reinhard with Wong to obtain the invention as specified in claim 20.

7. **Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (EP 0 953 938 A2) in view of Reinhard (US Patent 6,333,987 B1) and Austin (US Patent 5,488,223).**

Regarding claim 3: Wong in view of Reinhard does not disclose expressly that said carrier is a label.

Austin discloses printing on a carrier, wherein said carrier is a label (figure 3b and column 7, lines 56-59 of Austin).

Wong in view of Reinhard is combinable with Austin because they are from the same field of endeavor, namely printing, reading, and processing digital and document image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print said watermarked image on a label. The motivation for doing so would have been labels can be used as another form of data storage and entry (column 4, lines 3-5 of Austin). Therefore, it would have been obvious to

combine Austin with Wong in view of Reinhard to obtain the invention as specified in claim 3.

Regarding claim 5: Reinhard discloses that said label (taught by Austin) is evaluated based on strength of the image (watermark signal, as taught by Reinhard) detected in the areas as the measure of the quality of printing (figure 2 and column 2, lines 15-24 of Reinhard).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (EP 0 953 938 A2) in view of Reinhard (US Patent 6,333,987 B1) and Bhaskaran (US Patent 6,064,764).

Regarding claim 4: Wong discloses that the second image is acquired through digital means (figure 1A and column 5, lines 30-40 of Wong).

Wong in view of Reinhard does not disclose expressly that said digital means is specifically a digital camera.

Bhaskaran discloses acquiring a watermarked image using a digital camera (column 8, lines 50-56 of Bhaskaran).

Wong in view of Reinhard is combinable with Bhaskaran because they are from the same field of endeavor, namely embedding, reconstructing, and processing watermark data in digital and document images. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically use a digital camera to capture said second image, as taught by Bhaskaran. The suggestion for doing so would have been that a digital camera is simply one of many possible means that one of ordinary skill in the art at the time of the invention could use to acquire a digitized version of the watermarked image (column 8, lines 50-56 of Bhaskaran). Therefore, it would

have been obvious to combine Bhaskaran with Wong in view of Reinhard to obtain the invention as specified in claim 4.

9. Claims 9, 13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aggarwal (US Patent 6,834,344 B1) in view of Austin (US Patent 5,488,223).

Regarding claims 9 and 13: Aggarwal does not disclose expressly that said carrier is a label.

Austin discloses printing on a carrier, wherein said carrier is a label (figure 3b and column 7, lines 56-59 of Austin).

Aggarwal is analogous art since Aggarwal is in the same field of endeavor as the present application, namely embedding, reconstructing, and processing watermark data in digital and document images. Aggarwal and Austin are combinable because they are from the same field of endeavor, namely printing, reading, and processing digital and document image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print said watermarked image on a label. The motivation for doing so would have been labels can be used as another form of data storage and entry (column 4, lines 3-5 of Austin). Therefore, it would have been obvious to combine Austin with Aggarwal to obtain the invention as specified in claims 9 and 13.

Regarding claim 17: Aggarwal discloses a system (figure 7 of Aggarwal) for inspecting quality of print images, said print images being printed with an image that includes a digital watermark (figure 3(206) and column 6, lines 59-63 of Aggarwal), embedded in areas of said print images (figure 3(201-205); and column 6, lines 48-51 and lines 55-59 of Aggarwal), said system comprising means for acquiring (scanning) an image of said print

images after said print images have been printed (column 5, lines 3-6; column 6, lines 30-36; and column 8, lines 50-52 of Aggarwal); means for detecting a watermark signal from the areas (column 6, lines 55-57 of Aggarwal) of said image of said print images (column 7, lines 27-32 of Aggarwal); means for determining an extent to which the watermark signal is detected in the areas as a measure of print quality of said print images (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal). The embedded watermark is a semi-fragile watermark (column 6, lines 40-41 of Aggarwal). If a semi-fragile watermark is affected such that it cannot be authenticated, then the quality of the image is inherently affected. Thus, the determination as to whether or not the reconstructed watermark is authentic (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal) is also a measure of the image quality.

Aggarwal does not disclose expressly that said print images are specifically labels.

Austin discloses printing images specifically on labels (figure 3b and column 7, lines 56-59 of Austin).

Aggarwal is analogous art since Aggarwal is in the same field of endeavor as the present application, namely embedding, reconstructing, and processing watermark data in digital and document images. Aggarwal and Austin are combinable because they are from the same field of endeavor, namely printing, reading, and processing digital and document image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print said watermarked image on labels. The motivation for doing so would have been labels can be used as another form of data storage and entry (column 4, lines 3-5 of Austin). Therefore, it would have been obvious to

combine Austin with Aggarwal to obtain the invention as specified in claim 17.

Regarding claim 18: Aggarwal discloses that said digital watermark includes a signal embedded into the image at selected spatial frequencies (column 6, lines 48-51 and lines 55-59 of Aggarwal). As is well-known in the art DCT coefficients are at selected spatial frequencies.

10. Claim 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aggarwal (US Patent 6,834,344 B1) in view of Bhaskaran (US Patent 6,064,764).

Regarding claim 15: Aggarwal discloses a system (figure 7 of Aggarwal) for inspecting a print image, said printed image including a digital watermark (figure 3(206) and column 6, lines 59-63 of Aggarwal), said watermark being redundantly applied to areas of said printed image (figure 3(201-205); and column 6, lines 48-51 and lines 55-59 of Aggarwal), said system comprising an image capture device (scanner) for acquiring (scanning) an image of said printed image (column 5, lines 3-6; column 6, lines 30-36; and column 8, lines 50-52 of Aggarwal); detecting a digital watermark signal from said areas (column 6, lines 55-57 of Aggarwal) of said image (column 7, lines 27-32 of Aggarwal); and examining magnitude of the digital watermark signal in said areas as a measure of quality of said printing (figure 8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal). The embedded watermark is a semi-fragile watermark (column 6, lines 40-41 of Aggarwal). If a semi-fragile watermark is affected such that it cannot be authenticated, then the quality of the image is inherently affected. Thus, the determination as to whether or not the reconstructed watermark is authentic (figure

8(705-707); and column 7, lines 32-35 and lines 64-67 of Aggarwal) is also a measure of the image quality.

Aggarwal does not disclose expressly that said detecting is performed with a computer that executes a watermark reading program; and that said examining is performed using code.

Bhaskaran discloses performing watermarked image data processing using a computer that executes computer program code (column 8, lines 44-50 of Bhaskaran).

Aggarwal and Bhaskaran are combinable because they are from the same field of endeavor, namely embedding, reconstructing, and processing watermark data in digital and document images. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a computer that executes computer program code, as taught by Bhaskaran, to perform the steps of detecting and examining taught by Aggarwal. The suggestion for doing so would have been that the scanned watermark data taught by Aggarwal is digital image data and a computer executing computer code is a common, effective and efficient means of processing digital image data. Therefore, it would have been obvious to combine Bhaskaran with Aggarwal to obtain the invention as specified in claim 15.

Regarding claim 16: Aggarwal discloses that said digital watermark includes a signal embedded into the image at selected spatial frequencies (column 6, lines 48-51 and lines 55-59 of Aggarwal), and magnitude of the digital watermark comprises magnitude of the watermark at the selected spatial frequencies (column 6, lines 48-59 of Aggarwal). As is well-known in the art DCT coefficients are at selected spatial frequencies.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (EP 0 953 938 A2) in view of Reinhard (US Patent 6,333,987 B1) and Zhao (US Patent 6,243,480 B1).

Regarding claim 21: Wong in view of Reinhard does not disclose expressly that the digital watermark is embedded in a background image.

Zhao discloses embedding a digital watermark in a background image (column 11, lines 16-19 of Zhao).

Wong in view of Reinhard is combinable with Zhao because they are from the same field of endeavor, namely the embedding and manipulating watermark image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to embed the digital watermark specifically in a background image. The motivation for doing so would have been to be able to include data such as computer programs in the background of the image (column 11, lines 40-46 of Zhao). Therefore, it would have been obvious to combine Zhao with Wong in view of Reinhard to obtain the invention as specified in claim 21.

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aggarwal (US Patent 6,834,344 B1) in view of Zhao (US Patent 6,243,480 B1).

Regarding claim 24: Aggarwal does not disclose expressly that the digital watermark is embedded in a background image.

Zhao discloses embedding a digital watermark in a background image (column 11, lines 16-19 of Zhao).

Aggarwal and Zhao are combinable because they are from the same field of endeavor, namely the embedding and manipulating watermark image data. At the time of the invention, it would

have been obvious to a person of ordinary skill in the art to embed the digital watermark specifically in a background image. The motivation for doing so would have been to be able to include data such as computer programs in the background of the image (column 11, lines 40-46 of Zhao). Therefore, it would have been obvious to combine Zhao with Aggarwal to obtain the invention as specified in claim 24.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Joe Pasqua, US Patent Application Publication 2002/0118860 A1, Published 29 August 2002, Filed 25 February 2002, Provisional Application filed 23 February 2001.

b. Kirovski et al, US Patent 7,020,285 B1, Patented 28 March 2006, Filed 12 July 2000, Provisional Application filed 13 July 1999.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

James A. Thompson
Examiner
Technology Division 2625

19 September 2006

DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600